INFRASTRUCTURE NEEDS
IN THE SOCIAL AND ENVIRONMENTAL SECTORS IN THE WESTERN BALKANS

Concept Note prepared by the Council of Europe Development Bank (CEB)

INTRODUCTION AND BACKGROUND

The most recent and decisive initiative for promoting more cooperation and for improving the conditions for EU accession of the Western Balkan countries is the so-called 'Berlin Process', started in August 2014. A key component of this initiative is the 'Connectivity agenda' involving priority investments in core transport and energy infrastructure networks.

In addition to investing in the physical infrastructure, it is also essential to consider infrastructure from a wider perspective, with investment in human capital and more broadly in the social sector. In effect, it is generally acknowledged that investing in human capital, primarily through better access to healthcare, education, employment and other social services, paves the way for growth and social cohesion. In this respect, governments in the region have recognised the need for investment in the social sector. However, their capacity to make these and other related investments is constrained by a number of factors, in particular the fact that total government expenditure in most countries is already high. At the same time, projects in the social sector face a number of specific challenges which make their financing more difficult:

- Investment in social sector projects is given less priority since their link to economic growth is more difficult to demonstrate.
- Social sector projects are rarely suited to being financed exclusively by loans; they often need a grant element.
- The success of these projects is closely linked to the quality of the legal, regulatory and overall policy environment.

Furthermore, the region needs substantial investment in the environmental sector in order to tackle not only past problems (such as those that have arisen from the legacy of their 20th century industrial development and environmental mismanagement) but also new environmental issues (such as the pressures arising from urbanisation, new consumption patterns and the growing impacts of climate change). Addressing environmental investment needs – upgrading basic infrastructure, greening the built environment and strengthening resilience to extreme climate events – is therefore vital for setting the region on a more sustainable development path.

The purpose of this concept note is to assess the divide that exists in the social and environmental sectors between the Western Balkan countries (Albania, Bosnia and Herzegovina, "the former Yugoslav Republic of Macedonia", Kosovo, Montenegro and Serbia, henceforth "WB6") and the EU countries. The focus is placed on infrastructure needs in the following sectors: 1) housing, health, education and judicial facilities, which are the cornerstones of the WBIF social sector activities and 2) basic environmental infrastructure, and disaster risk reduction and prevention, which are eligible for WBIF environmental financing. To a much lesser extent, this note also describes policy dimensions of the sector related challenges but more research is needed to provide an objective assessment of the reform gaps in the region.

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This briefing note was prepared by Lucia Athenosy (Senior Economist), Corporate Responsibility & Studies Department, under the supervision of Jérôme Halb (Director of Corporate Responsibility & Studies Department, Deputy Director for European Cooperation & Strategy).

1. MAKING A CASE FOR INVESTMENT IN THE SOCIAL SECTOR

The social sector is different from the other infrastructure sectors in several aspects.

First, investing in the social sector means investing in "human capital", which can be understood broadly as involving physical capital investment (such as the construction of schools, hospitals and their equipment) as well as current expenditures in the wages of teachers, who "create" and develop human capital, and the capacity and skills of the young to become successful in their future working activities (i.e. investment in human resource capacities)[1]. This particularity of the social sector makes difficult it to estimate the needs, as they are often qualitative and not merely quantitative.

Second, social investment projects can bring significant positive "externalities" to society as a whole, whether such projects are in favour of education and health, the most vulnerable population groups or promoting a human rights approach. Investing in healthcare, education and job training enhances human capital. A competent, well-educated and healthy workforce is central to a country's competitiveness. It creates better jobs, boosts productivity, generates prosperity and promotes social inclusion. Investing in affordable and decent housing is key to stabilising population movements and to starting labour activities. Investing in modern penitentiary infrastructure consolidates democracy and promotes the rule of law and respect for human rights. All these investments seek to generate economic growth, strengthen social cohesion and support a well-functioning democracy.

Third, a particular challenge to socially-oriented investments is that they often present a low level of financial return, with market actors perceiving social projects as riskier and financially unattractive. Social investment also presents the unique challenge of evaluating and assessing the social and economic impact over a long-term horizon. As a result, private sector investment is harder to find, and the public sector thus depends heavily on public funding to finance such projects. Yet, within the current post-crisis context of fiscal spending constraints on capital expenditures, public funding for social infrastructure investment may be difficult to find.

The social sector in the Western Balkans is in urgent need of investment. Infrastructure endowments are poor in comparison with EU standards. Indeed, the poor state of social infrastructure at the end of 1980s, coupled with the effects of the war, structural changes since the beginning of the transition period, poor maintenance of existing capital stocks and the chronic underinvestment that prevailed during the recent economic crisis, have led to a growing mismatch between the current state of social infrastructure and the needs of the sector[1]. More and better infrastructure is thus needed to stimulate growth, improve competitiveness and accelerate the process of catching-up of the region to higher per capita income levels. To address this challenge, public investment should play a pivotal role while crowding in private investment[1]. In this respect, the role of development finance is crucial. It is the only way to finance the long-term projects required to redesign economic and social structure of the Balkan countries.

2. OVERVIEW OF THE SOCIAL SECTOR: CURRENT STATE AND FUTURE NEEDS

The available data on the social sector in this section point to the existence of **significant investment needs in social sector related infrastructure and services** across the Western Balkan (WB) countries. This is in terms of both capital expenditure and the need for improvement in effectiveness and efficiency. In order to measure the existing gaps, various **input** (i.e. financial and human resources), **output** (e.g. number of dwellings, hospital beds, graduates, etc.) and **outcome** (e.g. housing quality, human capital index, PISA ranking, etc.) **indicators** are used here.

To guide investments, one of the most important challenges in the region is the need to implement **comprehensive sectoral strategies** combining policy reforms with capital investments. Although the countries are at different stages of implementation of their policies, they all need further support to enhance their institutional setting and technical capacity.

1. Source: STAREBEI (2016), Investment for Growth and Development in the Western Balkans, June 2016.

PROVIDING DECENT, AFFORDABLE AND SUSTAINABLE HOUSING[2]

Housing needs in the WB countries differ from those in Western European countries, with **lower housing availability** (see Figure 2.1) and inadequate maintenance, higher ownership rates (see Figure 2.2), **massive illegal housing construction** and **a striking contrast in terms of housing quality** (see Figures 2.3&2.4). These aspects are generally legacies of the past and of underinvestment. Investment in adequate, affordable and energy efficient housing is thus a particular challenge across Western Balkan countries.

The **housing shortage** is one of the key challenges facing the WB countries. Based on the latest available data, the housing stock per 1,000 inhabitants (see Figure 2.1) in most WB countries is much lower than the EU average of 483 dwellings. Another feature of housing provision is the high share of owner-occupancy (see Figure 2.2) in these countries (where the fall of communism was followed by mass privatisation of the housing stock). While in the EU-28 average homeownership stood at 70% (in 2015, see Figure 2.2), ownership reached between 80 and 90% in the WB countries. An additional challenge is the lack of supply of appropriate types of housing for specific vulnerable population groups (refugees and IDPs, ageing population, veterans, etc.) as well as for the low-income and no-income populations.

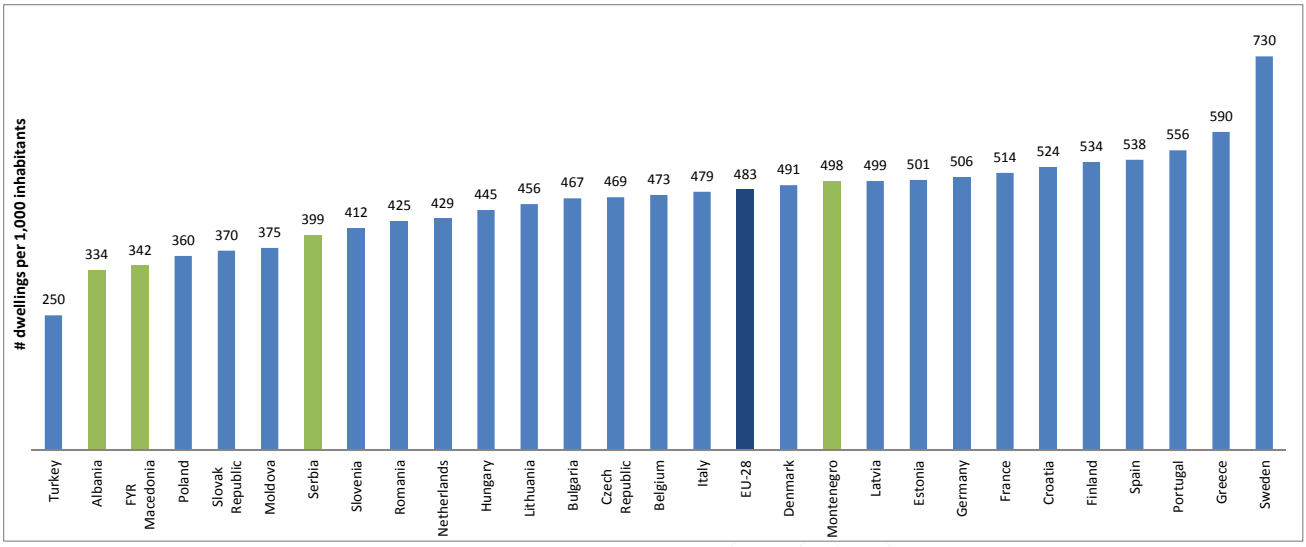
There is a considerable contrast between these countries and the EU average in terms of **housing quality**. One of the key elements of housing quality is the availability of sufficient space in the dwelling. Space issues can be analysed through the **overcrowding** rate[3]. Across Europe, the highest rates registered in 2015 were in the South Eastern European countries, particularly in Serbia and "the former Yugoslav Republic of Macedonia", where half of the population lived in overcrowded dwellings (see Figure 2.3). As a comparison, this figure was 17% across the EU. Housing quality can also be analysed by observing other deficiencies in amenities, such as the lack of basic sanitary facilities, measured by **severe housing deprivation** rates[4]. On average, 5% of the European population suffered from severe housing deprivation in 2015, with large variations across member states. The most affected countries were Romania (20%) and Serbia (17%). People at risk of poverty suffer more from insufficient space and poor amenities: in Serbia 25% of this population group faced severe housing deprivation (see Figure 2.4).

In addition, the majority of the apartment blocks were built from low-quality prefabricated materials, with, in some cases, a lifespan of only 30 years – which has already expired. The **quality gap** is becoming more pronounced between new constructions, which generally follow quality standards close to those of Western Europe, and such prefabricated building blocks. This translates into the need for modernisation of the housing existing stock. Another worrisome issue in the region is the existence of **informal settlements**: since the early 1990s, there has been rapid growth in the number of informal settlements, ranging from slums to luxury residences, from centrally located areas to suburbs, and from several small units to large settlements.

Furthermore, the general challenge throughout the region is the energy efficient refurbishment and retrofitting, the so-called **"greening" of existing buildings**. The emphasis on the existing stock is essential as new buildings account for only a limited share of the total housing stock. The Western Balkan countries in particular have the greatest untapped potential for energy efficient buildings[5]. Moreover, the provision of sustainable housing at an affordable price can especially target vulnerable households hit by energy poverty, thus combining environmental and social objectives. Indeed, the issue of **housing affordability** in the Western Balkan countries is not only linked to the ability to pay a mortgage or a rent but also closely related to the affordability of utility bills[6]. For instance, in Serbia, 29% of all households and 74% of low-income households (see Figure 2.5) pay more than 40% of their disposable income on housing (mortgages, rents, maintenance and energy) and are thus considered "overburdened" by housing costs[7], i.e. what they pay for housing is too much compared with what they can afford.

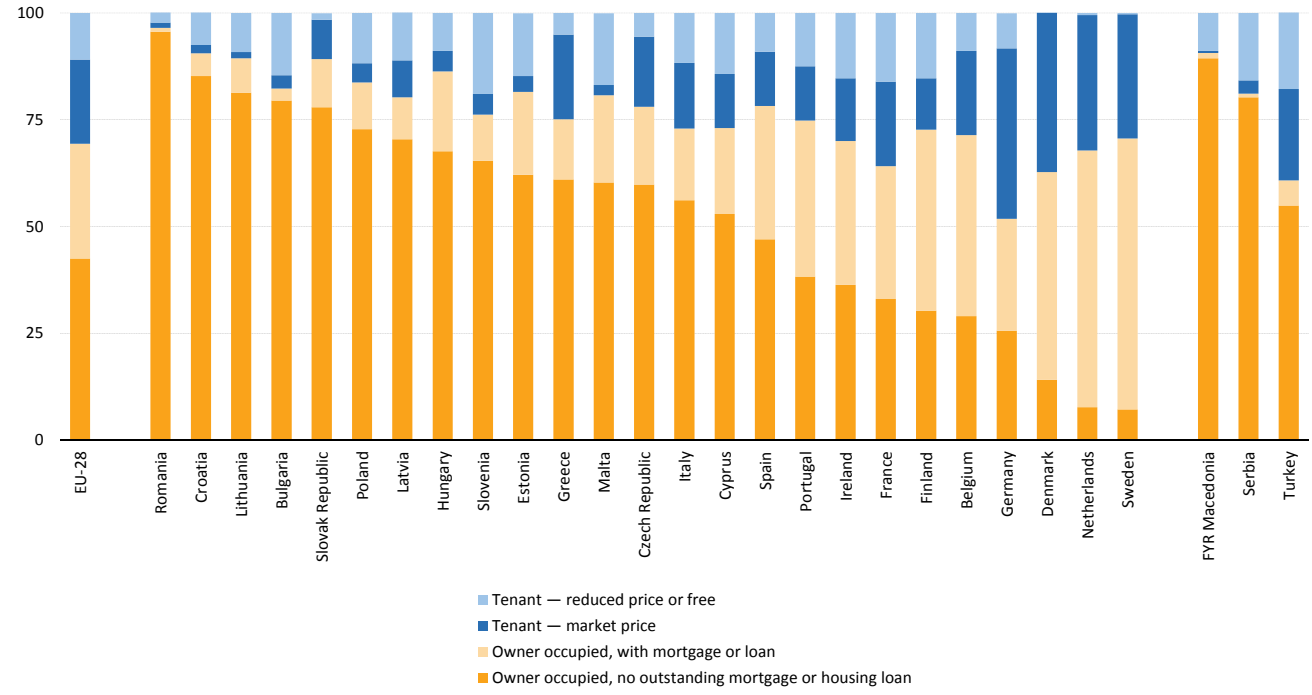
2. Source: CEB (2015), Financing Social and Affordable Housing in Europe: the CEB's Approach, May 2015.
3. The overcrowding rate describes the proportion of people living in an overcrowded dwelling, as defined by the number of rooms available to the household, the household's size, as well as its members' ages and their family situation.
4. The severe housing deprivation rate is the share of the population living in a dwelling which is considered overcrowded while also exhibiting at least one of the following housing deprivation measures: leaking roof, neither a bath nor a shower nor an indoor flushing toilet, or a dwelling considered too dark.
5. Source: UNECE (2012), Committee on Housing and Land Management, Green Homes: Towards energy-efficient housing in the UNECE region.
6. Source: UNECE (2015), Social Housing in the UNECE region. Models, Trends and Challenges, October 2015.
7. The housing cost overburden rate is defined as the percentage of the population living in a household where the total housing costs (net of housing allowances) represent more than 40% of the total disposable household income (net of housing allowances).

Figure 2.1: Housing stock, latest available year



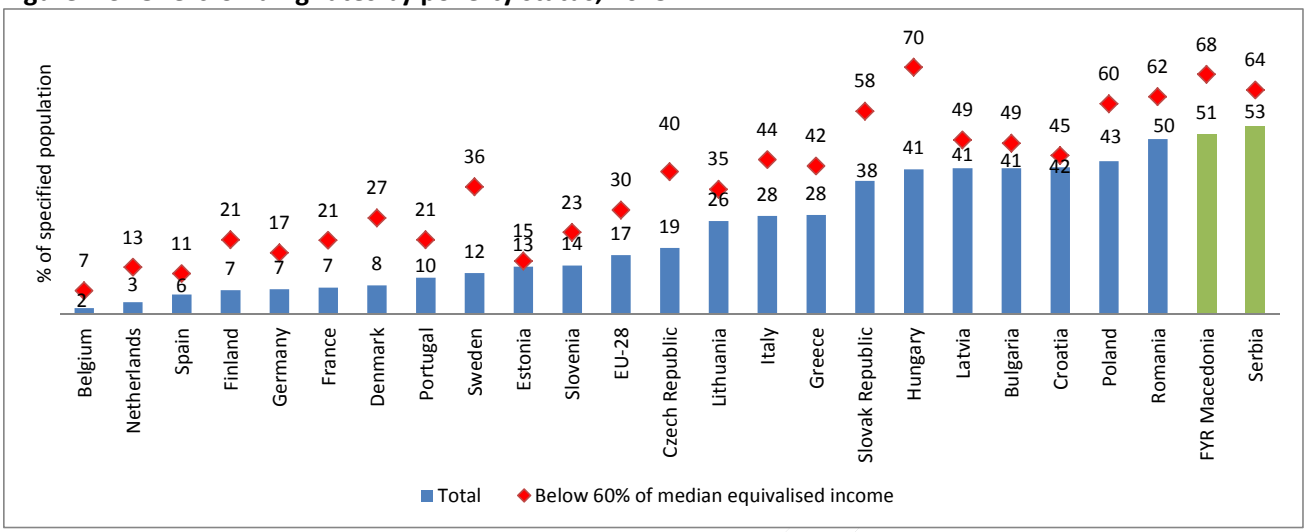
Source: CEB graph based on (1) Housing Europe (2015), The State of Housing in the Union – 2015 Report; (2) Habitat for Humanity (2013), Housing Review 2013 on 23 Countries in the Europe and Central Asia Region and (3) http://www.helgilibrary.com/ accessed on 21 April 2017. **Data is not available for BiH and Kosovo.** Data is mostly from 2011, with some figures from 2014 or 2015 such as for Denmark, Estonia, Finland, Hungary, the Netherlands, Poland, Romania, the Slovak Republic and Slovenia.

Figure 2.2: Distribution of housing by tenure status (% of population), 2015



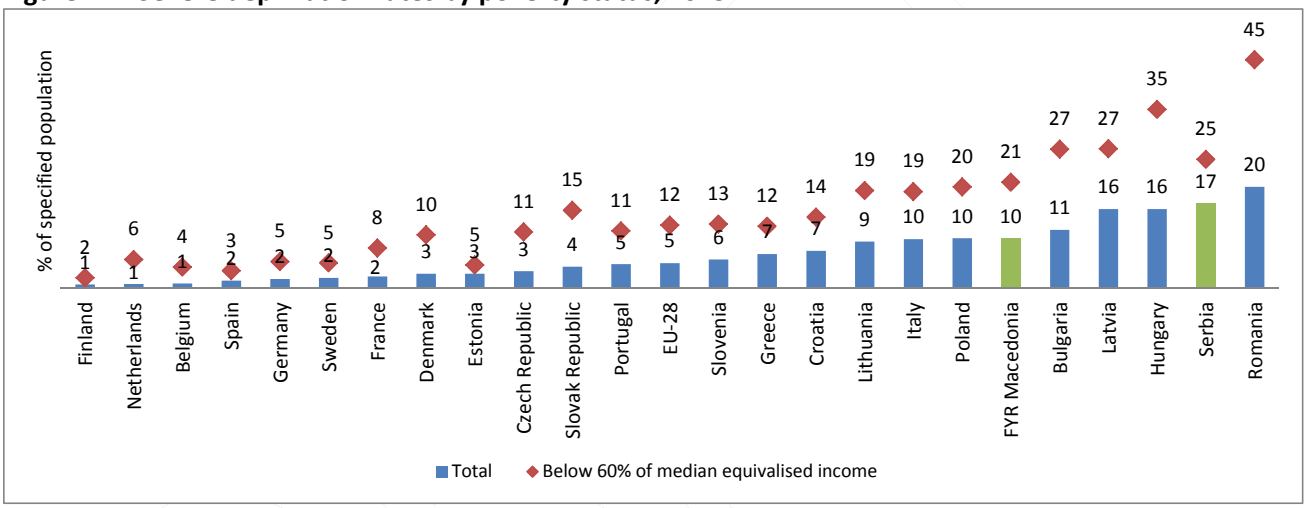
Source: CEB graph based on EUROSTAT data updated on 28 March 2017, extracted on 19 April 2017 (ilc_lvho02).
Note: **Data is not available for Albania, BiH, Montenegro and Kosovo.**

Figure 2.3: Overcrowding rates by poverty status, 2015



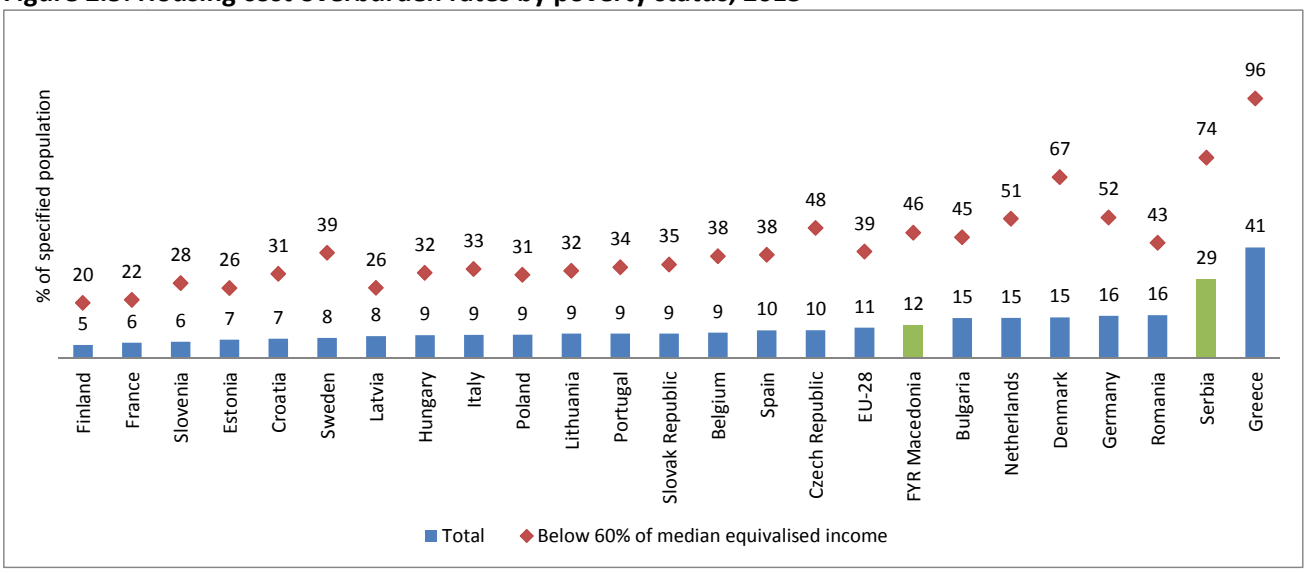
Source: CEB graph based on EUROSTAT data updated on 28 March 2017, extracted on 19 April 2017 (ilc_lvho05a).
Data is not available for Albania, BiH, Montenegro and Kosovo.

Figure 2.4: Severe deprivation rates by poverty status, 2015



Source: CEB graph based on EUROSTAT data updated on 28 March 2017, extracted on 19 April 2017 (ilc_mdho06a).
Data is not available for Albania, BiH, Montenegro and Kosovo.

Figure 2.5: Housing cost overburden rates by poverty status, 2015



Source: CEB graph based on EUROSTAT data updated on 28 March 2017, extracted on 21 April 2017 (ilc_lvho07a).
Data is not available for Albania, BiH, Montenegro and Kosovo.

▪ DELIVERING EFFICIENT, HIGH-QUALITY AND AFFORDABLE HEALTHCARE FOR ALL[8]

The WB countries have undertaken major health reforms over the last two decades, but their new systems are not yet fully in place and investment needs are significant. On the one hand, the full extent of the reform measures required will also depend on long-term demographic, epidemiologic and migration trends. On the other hand, the much needed investment in healthcare infrastructure, either to build or to refurbish, often conflicts with other public infrastructure investment needs. Since healthcare is not their only priority area, WB countries have to make difficult choices regarding the type of infrastructure investments they can afford to finance.

The investment needs in the health sector in the WB countries are more acute than those in the other European countries, because their healthcare systems are still transitioning from the centralised Semashko health model[9] (where primary care was under-resourced and under-used in comparison to the investment and use of the hospital sector) and their facilities are more obsolete. At the same time, the healthcare systems of these countries are having to cope with increasing costs due to demographic (e.g. population ageing), epidemiologic (e.g. chronic diseases), technological (e.g. new diagnostic techniques, telemedicine) and organisational (e.g. task shifting) changes. This requires ongoing **investment in new and updated facilities, equipment and skills**. Much needed reconfigurations of the hospital systems in particular require not only the construction and/or renovation of infrastructure but also the availability of an adequately skilled and trained medical and managerial workforce so as to adapt to evolving health needs and new treatment methods.

The **allocation of healthcare resources** (see Table 2.1) differs considerably both within WB countries and in comparison with the EU average. Health system characteristics and legacies of the past play an important role in explaining some of these cross-country variations. On the one hand, the numbers of physicians vary by a factor of almost three between the highest (Serbia) and lowest (Albania) levels, and the number of general practitioners by more than three (Serbia vs. Bosnia and Herzegovina). These gaps are much greater in comparison with the EU averages. The number of inpatient hospital beds per thousand population in 2014 was highest in Serbia (5.5) and lowest in Albania (2.9), compared with the EU-28 average of 5.2.

In terms of **utilisation**, the average length of stay in hospitals (ALOS) is often regarded as an indicator of efficiency. In 2014, ALOS for all causes across EU member countries was about 8 days. It was above this EU average in Montenegro (8.5) and Serbia (10.0) and was particularly low in Albania (5.5). Outpatient contacts per person per year represent the number of consultations in primary care facilities or patients' own homes. In 2014, the number was highest in Serbia (7.8), above the EU-28 average of 7 consultations per person per year, while it was lowest in Albania (2.5).

Expenditure on health measures the final consumption of health goods and services. This includes spending by both public and private sources on medical services and goods, public health and prevention programmes and administration, but excludes spending on capital formation (investments). Again, there are huge differences in terms of health expenditure within the region, and between the WB countries and the EU average. In 2014, health spending (see Table 2.2) accounted on average for 9.5% of GDP across all EU member countries (or PPP$ 3,509 per capita). Across WB countries, health expenditure per capita varied by a ratio of one to two. The highest per capita spending on health for 2014 was reported in Serbia (PPP$ 1,312) and the lowest per capita spender on health in 2014 in the region was Albania (PPP$615). Total health expenditure as a proportion of GDP varied widely across WB countries, ranging from 5.9% (Albania) to 10.4% (Serbia) in 2014. Two countries, namely Bosnia and Herzegovina and Serbia, spent above this EU-28 average on health.

Table 2.2 also shows the breakdown of health spending between public and private sources. On average, three quarters of health spending in the EU-28 comes from public resources. In WB countries, public spending on health is generally greater than private spending (around 60%), with the exception of Albania, where the private sector is the dominant source of healthcare financing. There is no international standard for the 'right' level of public spending on health, nor any single measure that indicates whether or not public spending levels are adequate to meet population health needs. Nevertheless, evidence shows that a low level of public

8. Source: CEB (2016), Financing Sustainable Health Infrastructure in CEB Target Countries, March 2016.
9. This model is still present in Kosovo, with a few minor changes, including high out-of-pocket payments.

spending on health is likely to lead to problems of access[10]. **Growing reliance on out-of-pocket payments** (OOPs) is one of the major trends that have characterised post-communist healthcare transition. It has materialised in the form of formal fees and informal payments and shifted the provision of certain services outside the public system to individually financed spot market purchase. This process has been reinforced by a growing willingness to pay for services of higher quality[11]. Unlike in France (29%), direct OOPs represent a significant if not total share of the private sector health expenditure in all WB6 countries, potentially creating financial barriers to healthcare, particularly for low-income households and other disadvantaged social groups such as the unemployed, the elderly and the chronically ill.

Table 2.1: Healthcare resources and utilisation, 2014 or latest available year

	Resources					Utilisation	
	Hospitals (per 100,000 population)	Hospital beds (per 100,000 population)	Physicians (per 100,000 population)	General practitioners (per 100,000 population)	Nurses (per 100,000 population)	Average length of stay in all hospitals (days)	Outpatient contacts per year (per person)
Albania	1.52	288.8	128.0	55.9	506.2 - 1994	5.5	2.5
Bosnia and Herzegovina	1.02	348.4	187.9	19.7	557.9	7.5	5.6
Bulgaria	4.83	713.0	398.7	62.6	485.0	5.4	5.9
Croatia	1.53	590.7	313.9	57.2	616.7	8.8	6.3
Cyprus	9.85	341.3	337.6	79.7	528.5	6.4	2.2
Czech Republic	2.44	645.5	368.9	70.1	834.1	9.4	11.1
Estonia	2.28	500.9	332.0	71.9	597.9	7.6	6.3
Georgia	6.98	313.3	517.0	127.6	413.6	5.2	3.5
Hungary	1.76	698.4	332.4	n.a.	658.4	9.5	11.8
Kosovo	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Latvia	3.21	565.7	321.6	n.a.	502.1	8.3	5.9
Lithuania	3.21	722.2	430.7	88.7	790.9	8.0	8.7
FYR Macedonia	3.18	442.8	280.0	n.a.	421.1	7.9	7.0
Malta	2.11	466.5	366.4	81.0	843.0	7.9	n.a.
Montenegro	1.77	393.4	220.0	39.4	548.9	8.5	7.1
Poland	2.88	662.8	230.7	22.2	583.0	6.9	7.2
Republic of Moldova	2.45	566.1	290.6	48.6	608.3	9.0	6.4
Romania	2.35	596.4	236.3	59.9	552.4	7.4	4.8
Serbia	1.44	552.4	307.1	70.7	628.8	10.0	7.8
Slovak Republic	2.47	578.5	300.1 - 2012	n.a.	608.3	7.3	11.3
Slovenia	1.41	453.8	277.1	51.6	862.9	6.9	6.6
Turkey	1.97	266.8	175.0	53.5	251.9	4.0	8.3
EU-28	**2.91**	**521.6**	**349.6**	**79.7**	**864.3**	**8.2**	**7.0**
France	4.85	640.9	321.5	159.8	1029.1	10.1	6.3
Germany	3.87	822.8	410.8	66.6	1342.3	9.0	9.9
Portugal	2.16	331.9	442.6	59.0	629.3	8.9	4.1 - 2012
Spain	1.64	296.9	381.3	75.1	533.6	7.4	7.6

Source: European health for all database (HFA-DB), WHO/Europe http://data.euro.who.int/hfadb/, July 2016, extracted on 19 April 2017.
Note: **Kosovo is not included in the database**.

Table 2.2: Health expenditure, 2014

	Total expenditure on health as % of GDP (WHO estimates)	Public-sector expenditure on health as % of GDP (WHO estimates)	Private-sector expenditure on health as % of GDP (WHO estimates)	Private households' out-of-pocket payments on health as % of private-sector health expenditure	Total health expenditure, PPP$ per capita (WHO estimates)
Albania	5.9	2.9	3.0	99.7	614.5
Bosnia and Herzegovina	9.6	6.8	2.8	96.9	957.4
Bulgaria	8.4	4.6	3.8	97.3	1,398.9
Croatia	7.8	6.4	1.4	61.8	1,652.1
Cyprus	7.4	3.3	4.1	88.9	2,062.4
Czech Republic	7.4	6.3	1.1	92.7	2,146.3
Estonia	6.4	5.0	1.4	97.8	1,668.3
Georgia	7.4	1.6	5.8	74.1	627.7
Hungary	7.4	4.9	2.5	78.2	1,826.7
Kosovo	n.a.	n.a.	n.a.	n.a.	n.a.
Latvia	5.9	3.7	2.2	95.4	940.3
Lithuania	6.6	4.5	2.1	97.3	1,718.0
FYR Macedonia	6.5	4.1	2.4	100.0	851.2
Malta	9.8	6.7	3.1	93.6	3,071.6
Montenegro	6.4	3.7	2.7	100.0	888.2
Poland	6.4	4.5	1.9	80.9	1,570.5
Republic of Moldova	10.3	5.3	5.0	79.0	514.2
Romania	5.6	4.5	1.1	96.3	1,079.3
Serbia	10.4	6.4	4.0	96.0	1,312.2
Slovak Republic	8.1	5.8	2.4	82.0	2,179.1
Slovenia	9.2	6.6	2.6	42.7	2,697.7
Turkey	5.4	4.2	1.2	78.7	1,036.5
EU-28	**9.5**	**7.2**	**2.3**	**68.0**	**3,508.8**
France	11.5	9.0	2.5	29.1	4,508.1
Germany	11.3	8.7	2.6	57.4	5,182.1
Portugal	9.5	6.2	3.3	76.3	2,689.9
Spain	9.0	6.4	2.6	82.4	2,965.8

Source: European health for all database (HFA-DB), WHO/Europe http://data.euro.who.int/hfadb/, July 2016, extracted on 19 April 2017.
Note: **Kosovo is not included in the database**.

10. Source: Expert Panel on Effective Ways of Investing in Health (2015), Access to health services in the European Union, September 2015.
11. Source: Sowa P. M. (2016), Governance of Hospitals in Central and Eastern Europe.

ADAPTING EDUCATION SYSTEMS TO LABOUR MARKET NEEDS

The global economic crisis has had a negative impact on the labour markets of WB6. The crisis has led to a contraction in economic activity, declining productivity and competitiveness and growing informality. Unemployment is high in all countries, and is disproportionately higher among young people (see Figure 2.6) who are affected by a **mismatch between education and training outputs and labour market skills needs**. The highest unemployment rates are observed in groups of population having either no education, only primary education or with general secondary education, while the groups with professional upper secondary and tertiary education report lower unemployment rates.

Skills development to support socio-economic development and inclusive growth is a priority for all countries in the region. The focus is on **shifting from supply-driven education and training provision to outcome-based systems** that are more responsive to the needs of learners and labour markets. All countries are working on adapting their governance, reforming their qualifications systems, modernising their curricula and introducing forms of entrepreneurship education, work-based learning and teacher training.

Although continuously improving in the past years, **educational attainment** in the WB countries is generally lower than in the EU. The proportion of the WB6 population, aged 25+, with at least an upper secondary level of education is much smaller than the EU-28 average of 75% (see Figure 2.7). Similarly, the highly educated in the WB6 economies account for around 20% of the workforce on average, against 39% in the EU. The overall figure hides significant discrepancies in the region: Kosovo 10%, Albania 14%, BiH 19%, "the former Yugoslav Republic of Macedonia" 24%, Montenegro and Serbia 28%. On the other hand, 20% of the workforce are early school leavers, compared with only 11% in the EU (OECD, 2016).

In terms of **learning outcomes**, the OECD Programme for International Student Assessment (PISA) finds that WB6 economies achieve below-average results in all disciplines (mathematics, reading and science), with Kosovo and FYR Macedonia with lowest performance among their regional counterparts. Kosovo is ranked one of the last three countries among the 72 countries that took the PISA test in 2015[12]. The poor performance points to the need for reform in primary and lower-secondary schools. PISA surveys also find that 15-year-old pupils who attended at least one year of pre-primary education perform much better than those who did not. Yet, participation rates in early childhood and education care (ECEC) among 3 year olds up to compulsory school age are very low in the WB economies (around 60% in Albania, Montenegro and Serbia; under 20% in Bosnia and Herzegovina, Kosovo and "the former Yugoslav Republic of Macedonia"), compared with the EU average of 94% (OECD, 2016). Given the essential role of ECEC in reducing inequality and improving basic proficiency in skills competences, increasing the physical capacities and quality of pre-school education in WB6 should be part of priority investments.

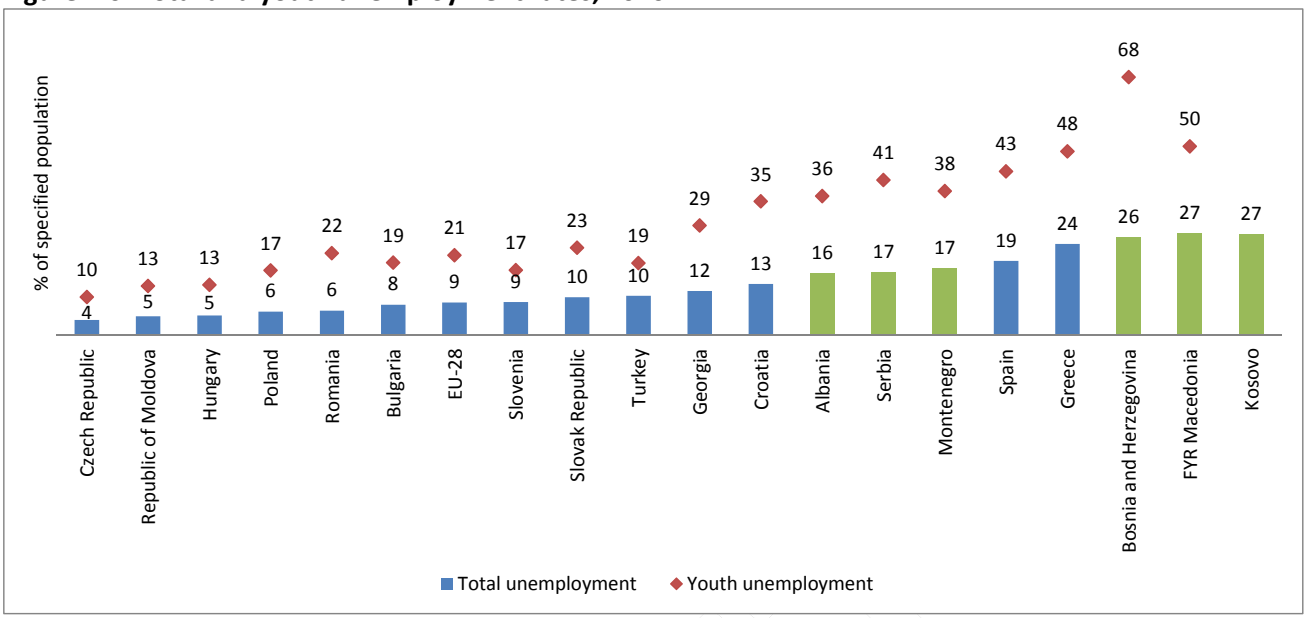
With regard to the ability to leverage their **human capital** successfully, the WB countries are far behind international standards in ranking. In terms of the human capital index[13] – based on the pillars of education, health, labour and employment – Serbia makes the best use of the potential of its labour force in the region and with 71 out of 100 possible points (see Figure 2.8) ranks in 57th place (among 130 countries); "the former Yugoslav Republic of Macedonia" and Albania rank 59th and 70th respectively. Among the comparison post-communist countries, Estonia came out on top with 81 points (15th place), followed by Slovenia (16th) and Lithuania (21st), while Romania and Bulgaria ranked 38th and 43rd respectively.

Strong educational performance cannot be expected without sufficient resources and reforms. The main input indicator for measuring government funding of educational institutions is annual expenditure on education as a percentage of GDP. In the WB countries, the average public spending on education is at less than 4%, below the EU average of 5.3%. As Figure 2.9 shows, Albania, followed by Montenegro, reported the lowest education expenditure ratios. As for investment in physical capital, 3% was clearly insufficient and far below European levels (see Figure 2.10). Taking into account the deficiencies of the education systems and the very high unemployment rates in WB6, **public investment in education - both in physical infrastructure improvement and human resources** - should be increased at least to European levels.

12. Source: http://www.oecd.org/pisa/pisa-2015-results-in-focus.pdf

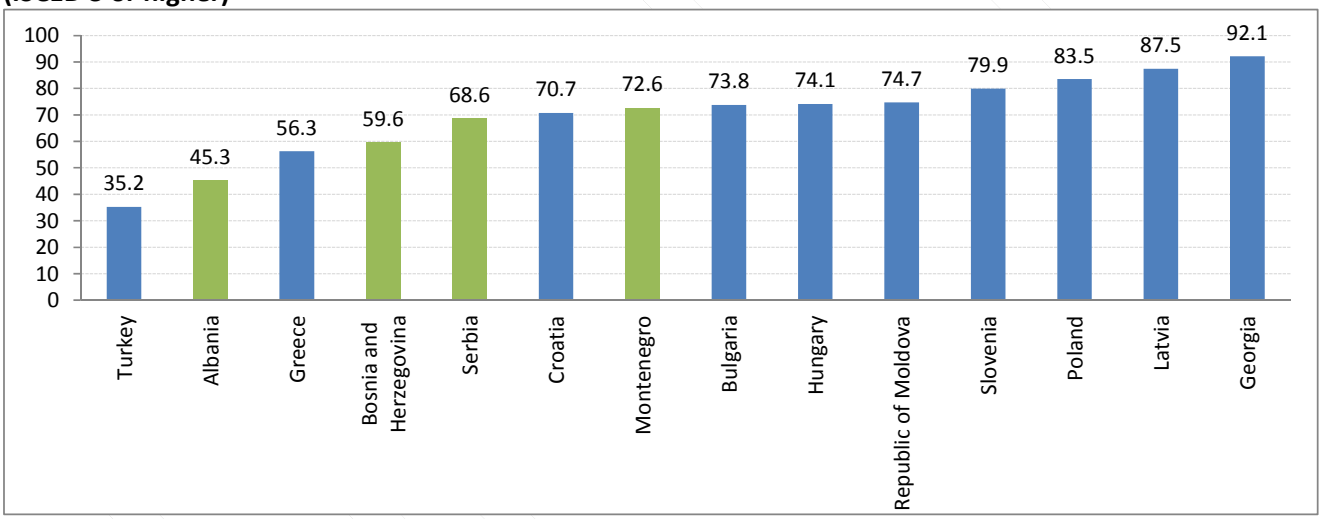
13. The **Human Capital Index** takes a life-course approach to human capital, evaluating the levels of education, skills and employment available to people in five distinct age groups, starting from under 15 years to over 65 years. The aim is to assess the outcome of past and present investments in human capital and offer insight into what a country's talent base looks like today and how it is likely to evolve into the future.

Figure 2.6: Total and youth unemployment rates, 2016



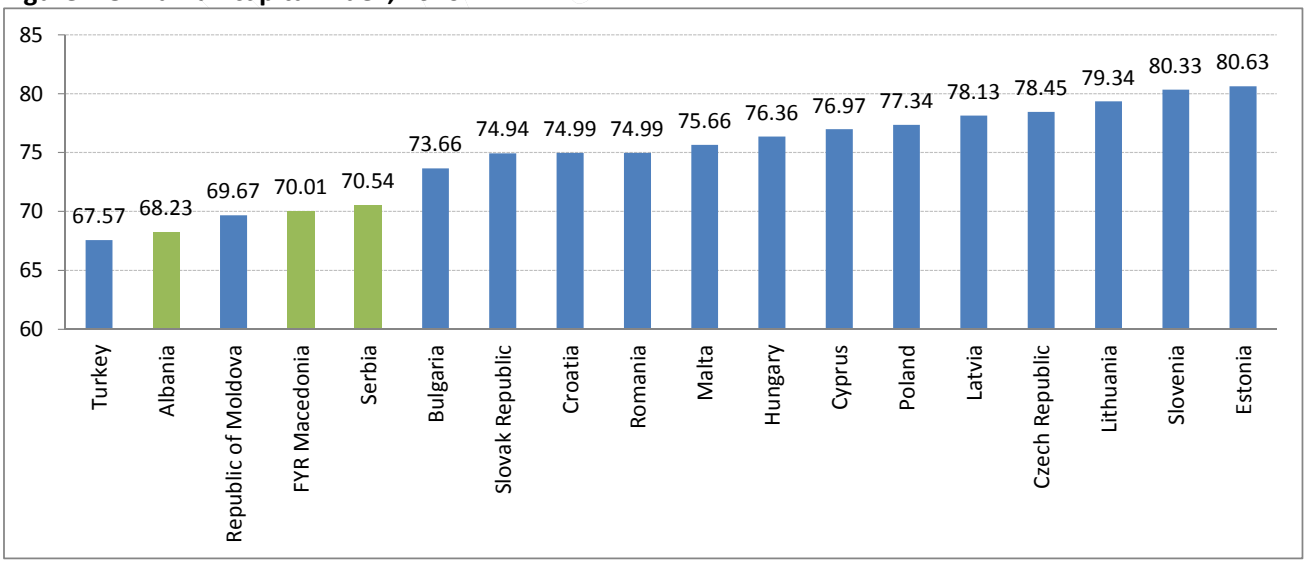
Source: International Labour Organization, ILOSTAT database. **Data on youth unemployment is not available for Kosovo.**

Figure 2.7: The percentage of population (aged 25+) with at least completed upper secondary education (ISCED 3 or higher)



Source: UNESCO Institute for Statistics. **Data is not available for FYR Macedonia and Kosovo.**

Figure 2.8: Human capital index, 2016



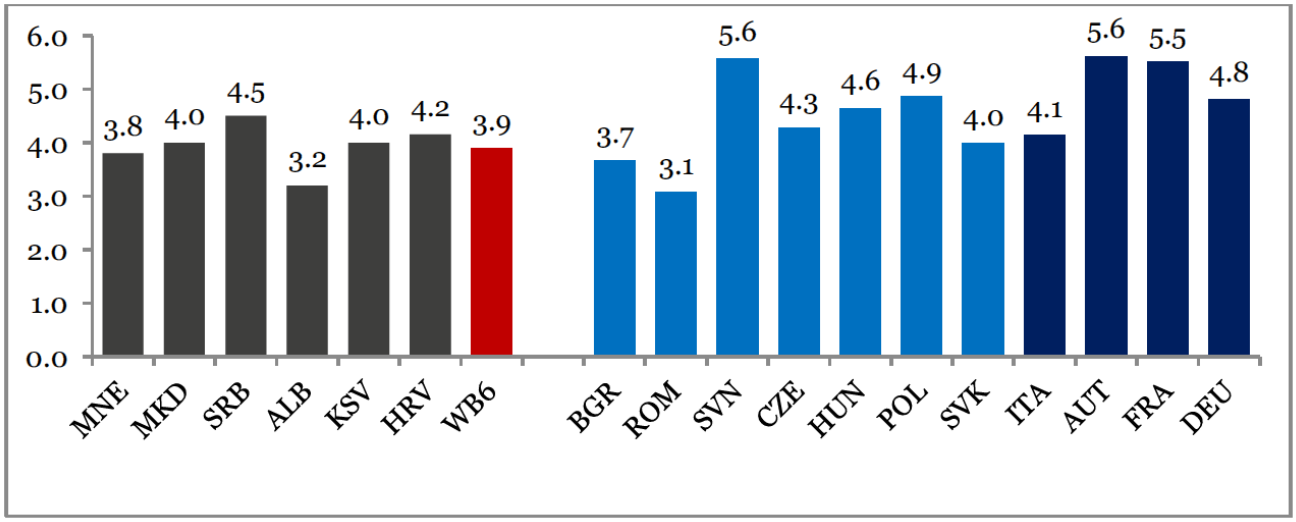
Source: World Economic Forum (2016), Human Capital Report 2016, June 2016. **Data is not available for BiH, Kosovo and Montenegro.**

Table 2.3: Human capital index, detailed rankings, 2016

	Overall index		0–14 Age Group		15–24 Age Group		25–54 Age Group		55–64 Age Group		65 and Over Age Group	
Country	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank
Finland	85.86	1	98.17	1	85.35	1	81.24	1	83.90	7	72.95	9
Norway	84.64	2	94.69	11	84.72	2	80.11	4	85.34	3	74.53	2
Switzerland	84.61	3	95.76	7	83.34	4	80.51	2	83.54	8	73.28	7
Japan	83.44	4	95.78	6	77.26	19	79.13	5	85.72	1	75.61	1
Sweden	83.29	5	93.25	14	81.03	9	80.17	3	84.58	4	70.43	16
New Zealand	82.79	6	95.20	9	82.25	7	76.25	17	85.70	2	74.07	3
Denmark	82.47	7	91.77	22	81.89	8	78.17	8	83.99	6	74.04	4
Netherlands	82.18	8	92.81	17	83.70	3	77.58	10	81.06	13	69.59	18
Canada	81.95	9	93.46	13	77.74	16	77.61	9	84.22	5	73.05	8
Belgium	81.59	10	95.29	8	78.25	13	77.55	11	78.33	27	68.32	23
Germany	81.55	11	89.56	38	79.78	10	78.39	7	83.31	9	73.54	6
Austria	81.52	12	92.29	20	82.41	6	76.75	15	79.06	23	72.00	12
Singapore	80.94	13	95.81	5	76.12	25	78.70	6	75.17	39	60.59	52
Ireland	80.79	14	95.87	4	75.84	29	76.32	16	78.16	28	67.77	26
Estonia	80.63	15	95.09	10	77.35	18	74.02	24	82.98	10	71.77	13
Serbia	70.54	57	88.22	43	65.17	75	64.67	53	70.00	66	54.91	69
Macedonia, FYR	70.01	59	86.60	54	67.03	66	62.17	67	71.09	58	61.21	49
Albania	68.23	70	90.03	34	62.03	85	59.46	83	67.45	72	55.83	68

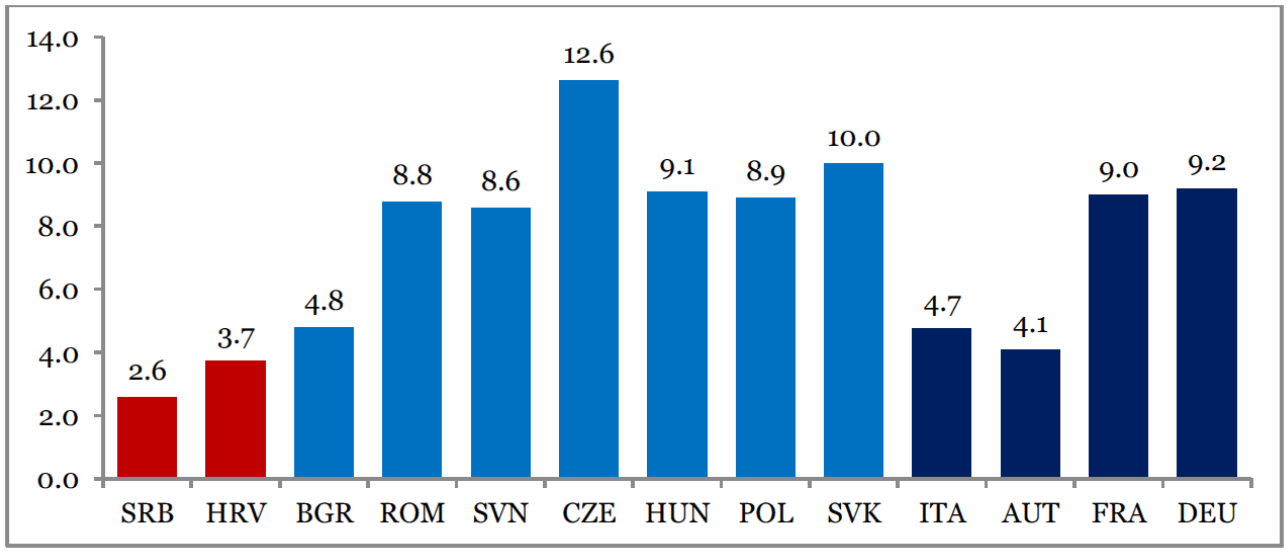
Source: World Economic Forum (2016), Human Capital Report 2016, June 2016. **Data is not available for BiH, Kosovo and Montenegro.**

Figure 2.9: Public spending on education (% of GDP), 2012



Source: STAREBEI (2016), Investment for Growth and Development in the Western Balkans, June 2016

Figure 2.10: Public capital spending on education (% of total spending on education), 2011



Source: STAREBEI (2016), Investment for Growth and Development in the Western Balkans, June 2016

▪ PROMOTING DECENT PRISON CONDITIONS IN LINE WITH THE EUROPEAN PRISON RULES[14]

Across Europe, imprisonment is the most severe punishment available to any court, and prisons are accordingly an integral part of the criminal justice system. Prisons are also, from the very beginning of an offender's sentence, an essential tool for social reintegration. A number of key elements in prison life directly affect this reintegration process: the prison atmosphere and relationship between prisoners and staff; the openness of the prison to the outside world and its approach to security; healthcare and psychological support services; prisoners' access to education, vocational training and recreational and sports activities.

The European Prison Rules (EPR) state that the enforcement of custodial sentences and treatment of prisoners necessitate taking account of the requirements of safety, security and discipline while also ensuring prison conditions which do not infringe upon human dignity and which offer meaningful occupational activities and treatment programmes to inmates, thus preparing them for their reintegration into society. However, **poor prison conditions** have been and remain a global and European reality. This is due to a significant number of **old buildings** being used as prisons, generally constructed between the middle of the nineteenth and twentieth centuries, when modern prison systems started to develop. In Central and Eastern Europe, in many cases, accommodation is often old and dilapidated, hygiene and security are poor, and recreation, exercise and contact with the outside world are limited. In addition, the following issues are often observed in the prison systems across these countries:

- **Increasing size of prison populations**: Prison populations have been rising over recent years in many countries. According to latest available data (see Table 2.4)[15], while the median prison population rate for Western European countries is 92 per 100,000 inhabitants, for the Western Balkan countries this figure is 142. All WB countries exceed this median rate for Western Europe, except for Bosnia and Herzegovina.

- **Prison overcrowding** (based on the official capacity of prison systems): in the WB countries, the occupancy level ranges from 60% (BiH) to 136% ("the former Yugoslav Republic of Macedonia"). For comparison, the median for Western European countries is 97%. In four of the six WB countries, prison population exceeds capacity, i.e. the occupancy level is above 100% (see Table 2.4). Overcrowding has severe implications not only for personal space, but also for water, sanitation, hygiene and habitat. It can also affect rehabilitation programmes such as work, education or space available for visits. Overcrowding thus exacerbates the conditions not only for prisoners but also for prison staff. In Central and Eastern European countries in particular, overcrowding, combined with other poor conditions, such as old and dilapidated institutions, prevents many prison systems from meeting the European Prison Rules minimum standards. In fact, in some of these countries, severe overcrowding and poor sanitation and hygiene are verging on inhuman and degrading treatment.

- **Inadequate healthcare provision:** Overcrowding and old buildings (e.g. poor heating, lighting and ventilation systems) constitute a threat to health and healthcare provision in these systems. Overcrowding is an obvious cause of, or contributing factor to, many health problems, most notably communicable diseases (e.g. tuberculosis and HIV/AIDS) and mental health issues (e.g. personality disorders), including the use of psychoactive substances (e.g. drug dependency). Understaffing and limited resources are also major health issues. Prison staff are also vulnerable to most of the diseases of which prisoners are at risk. Prison health is a matter of public health as the vast majority of people committed to prison eventually return to the wider society.

Like many European countries, the Western Balkans struggle with dilapidated and inappropriate penitentiary facilities, an acute shortage of cell space for their prisoner population and a lack of prison staff and prisoner programmes. The primary need is to improve prison capacity in both quantitative and qualitative aspects in line with the provisions of the European Prison Rules. In this respect, the countries face significant **investment needs in terms of infrastructure refurbishment and expansion, access to adequate healthcare, prisoner programmes and staff training**.

14. Source: CEB (2014), The CEB's Experience in Prison Financing, September 2014.
15. Source: www.prisonstudies.org

Table 2.4: Prison conditions in Europe

	Prison population total (including pre-trial detainees / remand prisoners)	Prison population rate (per 100,000 of national population)	Pre-trial detainees / remand prisoners (% of prison population)	Female prisoners (% of prison population)	Juveniles / minors / young prisoners incl. definition (% of prison population)	Foreign prisoners (% of prison population)	Number of establishments / institutions	Official capacity of prison system	Occupancy level (based on official capacity)
Albania	6,090	211	50.9%	1.7%	1.1%	1.7%	23	5,484	114.7%
Belgium	11,071	98	31.7%	4.4%	0.6%	45.0%	35	9,962	111.1%
Bosnia and Herzegovina									
- Federation	1,722	73	12.5%	2.9%	0.2%	2.6%	8	1,844	102.1%
- Republika Srpska	877	67	9.9%	1.6%	1.3%	2.7%	6	1,459	60.1%
Bulgaria	9,028	125	21.1%	3.2%	0.8%	2.0%	55	10,550	85.6%
Croatia	3,288	78	24.5%	4.1%	0.7%	5.7%	23	4,022	80.3%
Cyprus	681	80	35.7%	7.8%	0.6%	47.7%	1	480	112.3%
Czech Republic	22,739	215	8.1%	7.4%	0.4%	8.0%	35	20,829	109.2%
Denmark	3,408	59	31.1%	4.4%	0.5%	28.0%	57	3,522	96.8%
Estonia	2,813	213	19.7%	5.8%	0.8%	37.4%	4	3,034	96.3%
Finland	3,174	57	20.7%	7.7%	0.3%	18.6%	26	2,959	105.8%
France	68,342	101	28.5%	3.3%	1.1%	21.7%	188	58,681	116.6%
Georgia	9,451	254	12.7%	2.9%	0.3%	3.9%	15	21,398	45.6%
Germany	62,865	76	20.7%	5.7%	2.9%	27.1%	183	73,627	85.4%
Greece	9,621	89	26.7%	5.0%	2.5%	54.7%	35	9,886	97.3%
Hungary	18,208	186	21.3%	7.3%	1.6%	4.9%	33	13,771	132.2%
Iceland	124	37	12.1%	6.5%	0.0%	16.9%	5	141	87.9%
Ireland	3,777	81	15.0%	3.8%	1.3%	13.3%	14	4,200	89.9%
Italy	55,381	92	34.9%	4.2%	0.8%	34.0%	207	50,174	109.1%
Kosovo	1,854	103	31.4%	3.2%	2.2%	6.9%	12	2,132	87.0%
Latvia	4,409	224	31.5%	8.1%	1.0%	2.4%	12	5,852	75.3%
Liechtenstein	10	27	37.5%	0.0%	0.0%	50.0%	1	20	50.0%
Lithuania	7,355	254	8.6%	3.7%	1.2%	1.6%	11	9,299	79.1%
Luxembourg	705	121	45.0%	6.1%	0.3%	74.5%	2	711	99.2%
Malta	569	131	22.7%	6.3%	1.7%	40.2%	1	675	91.1%
Montenegro	1,131	182	26.3%	3.1%	0.4%	15.1%	3	1,350	83.8%
Netherlands	10,274	61	29.6%	5.7%	1.2%	18.0%	77	15,250	67.4%
Norway	3,874	74	25.7%	5.8%	0.1%	33.8%	54	4,097	89.8%
Poland	72,677	192	7.7%	3.7%	0.4%	0.9%	215	82,690	87.7%
Portugal	13,927	135	15.1%	6.2%	0.4%	16.5%	49	12,664	110.0%
Republic of Moldova	7,762	219	17.8%	6.2%	0.4%	1.3%	17	8,654	89.7%
Romania	27,251	139	8.3%	5.1%	1.4%	1.1%	45	27,796	98.0%
Serbia	10,067	142	17.7%	3.2%	0.8%	2.9%	28	9,459	106.4%
Slovak Republic	10,129	187	14.7%	6.8%	0.6%	1.8%	18	10,941	92.6%
Slovenia	1,308	63	15.5%	8.0%	0.6%	9.3%	7	1,322	98.0%
Spain	60,264	130	13.8%	7.5%	0.0%	28.7%	82	76,122	80.9%
Sweden	5,245	53	23.8%	5.8%	0.3%	30.9%	79	6,228	84.2%
Switzerland	6,884	83	39.6%	5.4%	0.3%	71.0%	117	7,343	93.7%
"the former Yugoslav Republic of Macedonia"	3,427	166	10.0%	2.9%	0.3%	3.2%	13	2,519	136.0%
Turkey	201,177	254	34.5%	4.0%	1.2%	1.8%	355	179,883	102.6%

Source: World Prison Brief, Europe.
The table contains latest available data, ranging from 2012 to January 2017, as accessed on http://www.prisonstudies.org/ on 19 April 2017.

3. OVERVIEW OF THE ENVIRONMENTAL SECTOR: CURRENT STATE AND FUTURE NEEDS

Environmental issues are amongst the most challenging in the WB6 region for several reasons.

- First, the region suffers from a poor legacy, including heavy industrialisation, coal and lignite reliance, illegal waste dumping, accumulated industrial and mining waste, limited wastewater treatment, and an energy inefficient building stock.
- Second, during the transition period of the 1990s and 2000s, national policies focused on political and economic reforms and security issues, very often leaving environmental aspects on the periphery of national agendas. As a result, much needed investments in environmental infrastructure are still awaiting their turn. Nevertheless, the countries have made great strides in harmonising their legislation with EU acquis and in developing their strategies and institutions. They have yet to prove their effectiveness within the context of each country.
- Third, the (peri-)urbanisation trend and the growing urban and coastal sprawl are generating higher levels of urban waste and putting heavy pressure on often deficient municipal infrastructure. Furthermore, changing production and consumption patterns[16] are having wide-ranging impacts on mobility, energy, resource use and waste.
- Last but not least, already prone to extreme climatic events such as the 2014 floods[17], the WB countries are experiencing the consequences of climate change: heat stress, droughts, disruptions in the precipitation regime, floods, landslides, etc. Higher summer temperatures and lower rainfall are likely to impact water supply, hydro-energy production and energy use in the coming years.

Consequently, the WB6 region needs substantial infrastructure investments in the environmental sector in order to address not only past environmental problems (such as those that have arisen from the legacy of their 20th century industrial development) but also new environmental issues (such as the pressures arising from urbanisation, new consumption patterns and the growing impacts of climate change).

This section focuses on the investment needs in the areas eligible for WBIF environmental financing, namely basic environmental infrastructure, and disaster risk reduction and prevention[18].

▪ UPGRADING BASIC ENVIRONMENTAL INFRASTRUCTURE[19]

All WB6 countries lag behind their Western European counterparts in terms of service delivery, quality and capacity of their basic environmental facilities as a result of historic environmental mismanagement and underinvestment in such infrastructure. Substantial investments in infrastructure will thus have to be made in WB countries to reach EU targets and to converge with the more mature environmental management sector in Western Europe.

SOLID WASTE MANAGEMENT

Average municipal solid waste generation in WB countries is 0.88 kg per day per person, which is lower than the EU-28 average of 1.3 kg (see Figure 2.11). This is clearly a result of the economic situation and lower purchasing power in the WB countries. Albania has the lowest level with 0.6 kg per day, whereas Montenegro, with 1.1 kg, is already very close to the EU level. At the same time, the region lacks the capacity to adequately manage waste. Waste is mainly disposed on landfills[20] without any prior treatment. Figure 2.12 shows that landfill is the predominant waste management option for all WB countries. On average, 74% of collected solid waste is landfilled on legal sites. In Albania, the proportion of illegal landfills is 60% and it is also very high in other WB countries. Figure 2.12 also shows that Serbia achieved the highest rate of recycling in the region with 15% of waste being recovered for recycling. This is still very low compared to the EU level of 42%. Significant investment is thus needed in the region to comply with the EU environmental acquis in solid waste management.

16. Source: European Environment Agency (2010), Environmental trends and perspectives in the Western Balkans: future production and consumption patterns, EEA Report N°1/2010.
17. The cost of these floods in terms of output loss and damages was estimated to be 4.7% of GDP in Serbia (€ 1.5 billion) and 15% of GDP in Bosnia and Herzegovina (€ 2.1 billion). Source: STAREBEI (2016), Investment for Growth and Development in the Western Balkans, June 2016.
18. **Sustainable energy (renewables and energy efficiency) is part of WBIF energy financing**.
19. Source: STAREBEI (2016), Investment for Growth and Development in the Western Balkans, June 2016.
20. The total amount of municipal solid waste (MSW) landfilled per capita is a measure towards waste management performance. High amounts of waste landfilled indicate the lack of waste infrastructure.

WATER AND WASTEWATER MANAGEMENT

Water and wastewater infrastructure requires substantial upgrading. Most of the infrastructure was built 40 or even 50 years ago, has suffered from poor maintenance and no longer meets users' needs. According to STAREBEI (2016), the total investment needs of WB6 in the water and wastewater management sector amount to € 16 billion in the medium term in order to comply with the EU acquis.

Access to improved water and sanitation facilities is generally high in the Western Balkans compared to the other developing regions of the world, but has not yet reached EU levels (see Figure 2.13). The insufficiency of the existing water and wastewater infrastructure becomes more evident when analysing piped water access to dwellings, sewerage and wastewater treatment. On average, 89% of the population is connected to piped water, 71% of piped water is provided by public supply (see Figure 2.14). Albania and Bosnia and Herzegovina have the lowest connection level (78% and 88% respectively, only 58% is provided by public supply in Bosnia and Herzegovina). The disparities between urban and rural areas are significant: in Albania 90% of the urban population is connected to piped water, compared to only 59% in rural areas; in "the former Yugoslav Republic of Macedonia" - 98% for urban and 80% for rural; in Kosovo - 100% for urban and 60% for rural. Moreover, the wastewater network is clearly underdeveloped and insufficient: it represents only one third (or even less) of the water supply network. On average, 89% of the population in the Western Balkans have access to flush toilets (see Figure 2.15). However, only 52% are connected to a sewerage network and only 10% are connected to a wastewater plant. In Bosnia and Herzegovina and in Kosovo, only 3% and 1% of waste water is treated. Because of such low levels of wastewater treatment, the discharge of wastewater is the major cause of pollution of both surface and groundwater sources.

▪ DISASTER RISK MANAGEMENT

According to the IPCC (2012)[21], one of the most important consequences of climate change will be the increase in the frequency and/or magnitude of extreme events such as floods, droughts, windstorms and heat waves. Climate change may also trigger other hazards in which climate or weather conditions play a fundamental role, such as avalanches, landslides and forest fires. These dangers imply the need for designing and implementing measures to prevent, minimise or avoid the impact of such events. On the one hand, this means investing in infrastructure for disaster prevention, comprising the construction or modernisation of irrigation systems, flood protection and drainage systems, the instauration of warning systems, etc. On the other hand, this means improving the resilience of existing infrastructure.

Rising temperatures and disruptions in the precipitation regime are the most significant exposures for the WB region. All WB6 countries face more frequent and more intense droughts and floods, and the four countries with coastal areas – Albania, Bosnia and Herzegovina, Croatia and Montenegro – also face potential hazards associated with rising sea levels. Exposure to these hazards plays out in public health and biodiversity and in key economic sectors – water resources, agriculture, forestry, energy and tourism.

The ability of the WB countries to respond effectively to climate change – either alone or together – depends on their overall vulnerability, which is a function of three factors – exposure, sensitivity and the capacity to adapt[22]. On this relative scale, the higher scores signify higher overall vulnerability. Of the five WB countries included in Figures 2.16 and 2.17, Albania is the most vulnerable to climate change and "the former Yugoslav Republic of Macedonia" has the lowest adaptive capacity.

For all WB countries, there is the need to catch up with advances in systems for managing disaster risks. Sophisticated disaster risk management would lessen countries' vulnerability to weather extremes; and improved weather tracking and forecasting would help anticipate emergencies and provide protection for human life and critical structures. By making the necessary investments today, countries would not only contain losses from disasters but would build a variety of useful capacities that would benefit other sectors such as agriculture, aviation and energy. Though these investments are not yet a priority for the WB6 region as there remain too many other gaps in infrastructure, the multiplication of climate change events may well cause the situation to change[1].

21. Source: IPCC (2012) Special Report on Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation (SREX).
22. **Exposure** accounts for the hazards associated with future climate change as compared to present conditions. Drought, for example, is a hazard resulting from higher temperatures and less precipitation. **Sensitivity** considers the degree to which exposure to a hazard causes harm. In an agricultural region, for example, exposure to drought may have significant consequences. **Adaptive capacity** captures the ability of the social, economic and political institutions to respond to the effects of climate change. **The vulnerability index combines indices for exposure, sensitivity and adaptive capacity**.

Figure 2.11: Municipal waste generation per capita (kg per day), 2014

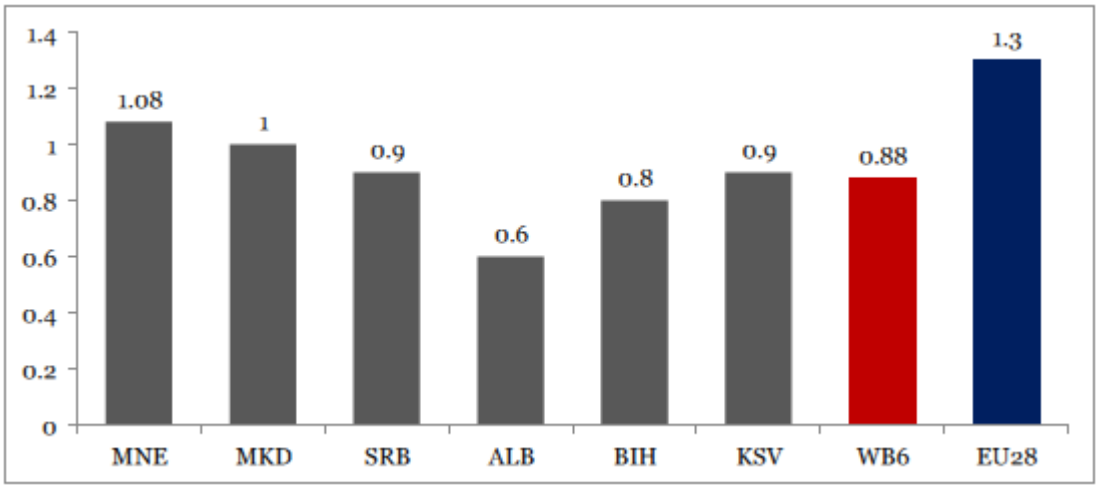


Figure 2.12: Municipal solid waste (MSW) by type of treatment, 2014

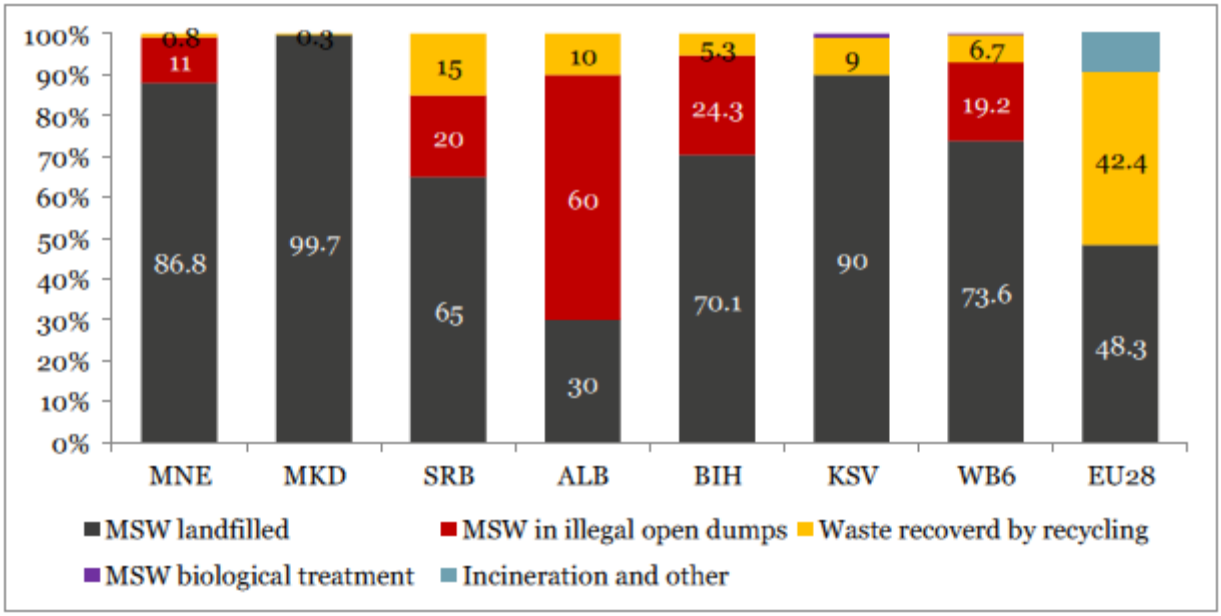
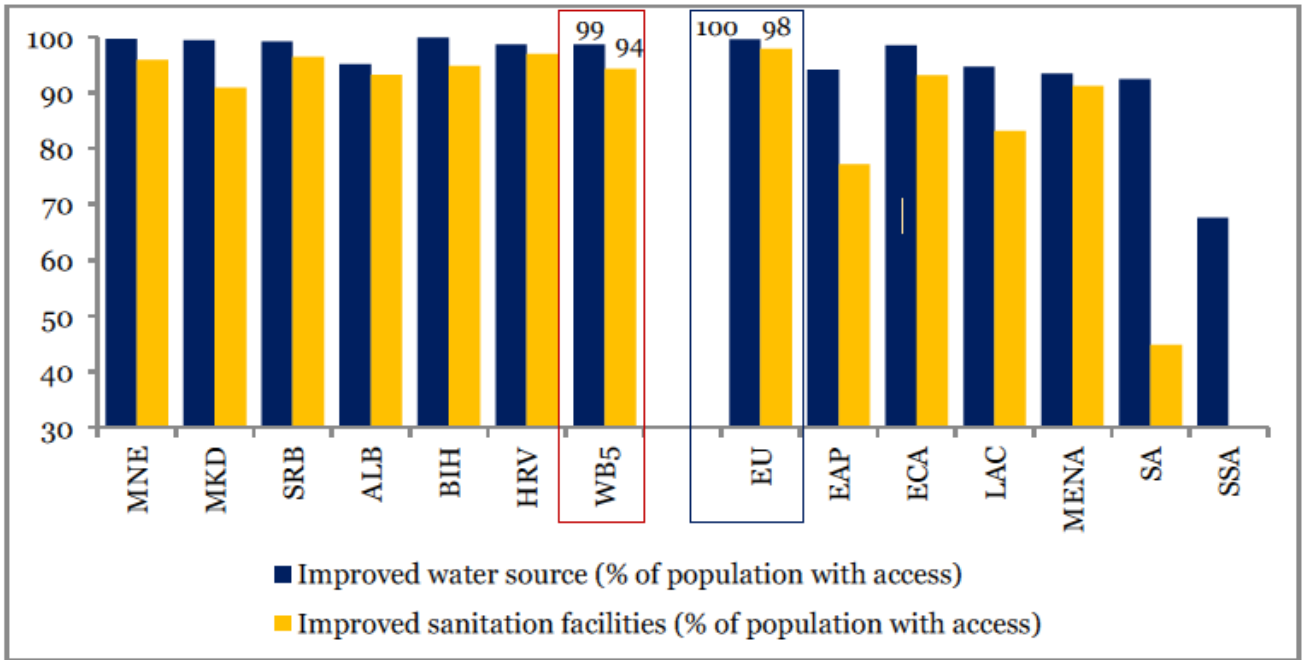


Figure 2.13: Population with improved water and sanitation facilities



EAP: Eastern Asia and Pacific; ECA: Europe and Central Asia; LAC: Latin America and Caribbean; MENA: Middle East and Northern Africa; SA: South Asia; SSA: Sub-Saharan Africa

Source: STAREBEI (2016), Investment for Growth and Development in the Western Balkans, June 2016

Figure 2.14: Piped water supply (% of population with access), last available year (2010-2013)

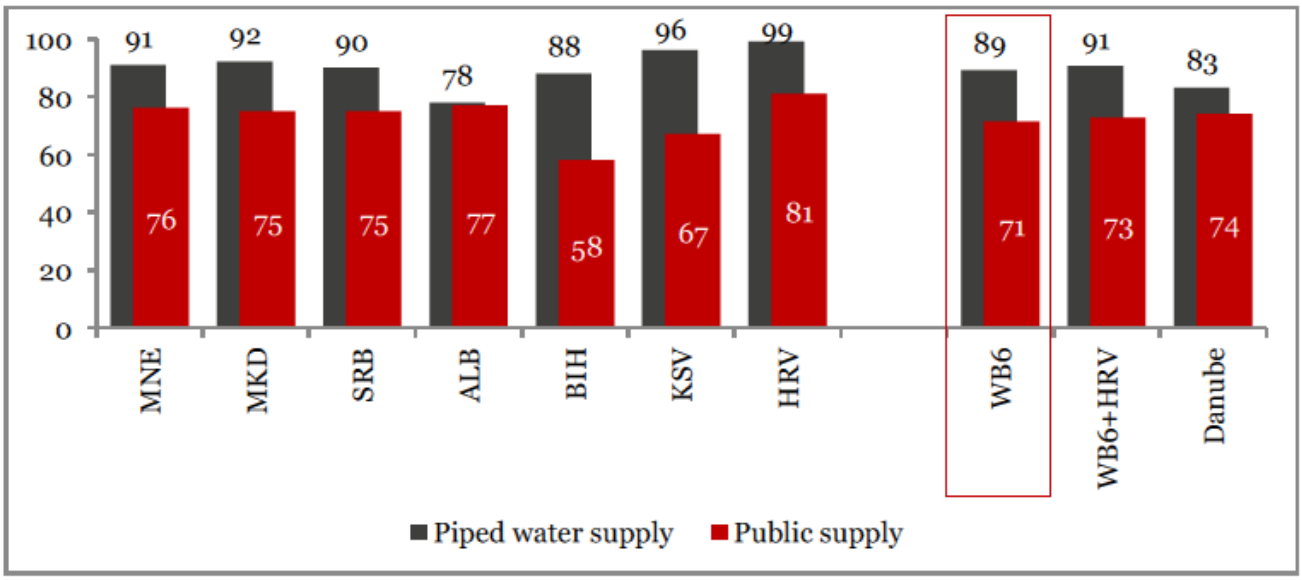
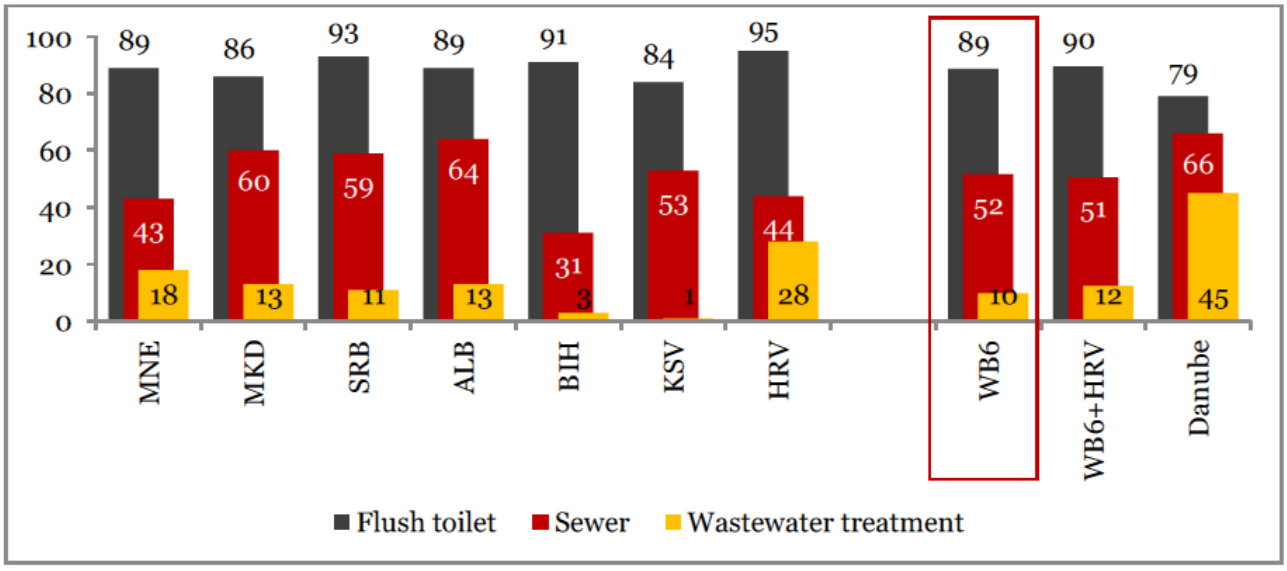


Figure 2.15: Sanitation and sewerage (% of population with access), last available year (2010-2013)



Danube average includes WB6, Croatia, Austria, Bulgaria, Czech Republic, Hungary, Republic of Moldova, Romania, Slovak Republic, Slovenia and Ukraine.
Source: STAREBEI (2016), Investment for Growth and Development in the Western Balkans, June 2016

Figure 2.16: Vulnerability index

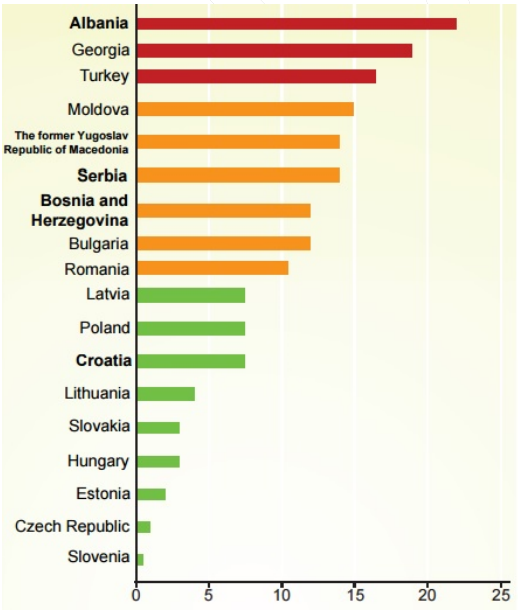
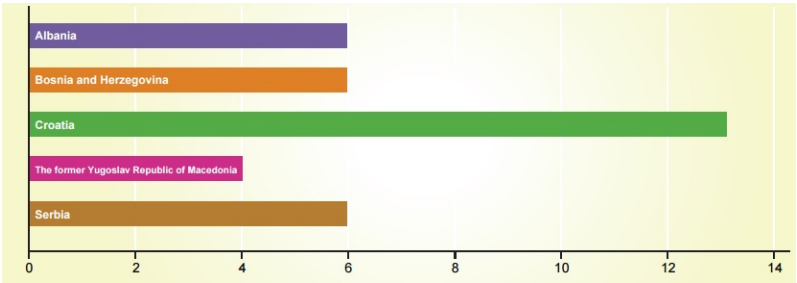


Figure 2.17: Adaptive capacity index



Source: UNEP/ENVSEC/Zoï environment network (2012), Climate change in the West Balkans